

## C l a i m s

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- 5     1.    A method of selecting of a path to establish a communication link between  
a first node and one of a plurality of access points of a wireless cellular  
telecommunication system, the wireless cellular telecommunication sys-  
tem having second nodes being adapted to serve as relay nodes, the  
method comprising the steps of:
- 10        -    receiving of data from at least one of the second nodes, the data being  
indicative of a first quality measure of a first path from the one of the  
second nodes to its access point,
- 15        -    comparing of a second quality measure of a second path from the first  
node to its access point with the first quality measure,
- selecting of the first path to replace the second path if the first quality  
measure is superior to the second quality measure.
- 20        2.    The method of claim 1, whereby the wireless cellular telecommunication  
systems is a IEEE 802.11-type network, a GSM-typ network, a UMTS-typ  
network or a WLAN-typ network.
- 25        3.    The method of claim 1, further comprising scanning of a set of frequencies  
by the first node to receive the data.
4.    The method of claim 3, whereby the scan is performed repeatedly after  
certain time intervals, whereby the length of the time intervals is adapted  
30        to the second quality measure.

5. The method of claim 1, whereby the first and the second quality measures depend on the number of hops in the third path and in the second path, respectively.
- 5 6. The method of claim 1, whereby the data is received by the first nodes on a pre-defined frequency.
7. A computer program product, such as a digital storage medium, for selecting of a path to establish a telecommunication link between a first node  
10 and one of a plurality of access points of a wireless cellular telecommunication system, the wireless cellular telecommunication system having second nodes being adapted to serve as relay nodes, comprising program means for performing the steps of:
  - 15 - inputting of data which have been received from at least one of the second nodes, the data being indicative of a first quality measure of a first path from the one the second nodes to its access point,
  - comparing of a second quality measure of a second path from the first  
20 node to its access point with the first quality measure,
  - selecting of the first path to replace the second path if the first quality measure is superior to the second quality measure.
- 25 8. A mobile node for a wireless cellular telecommunication system, the wireless cellular telecommunication system having second nodes being adapted to serve as relay nodes, a first node of the telecommunication system comprising means for selecting of a path to establish a telecommunication link to one of a plurality of access points of the wireless cellular  
30 telecommunication systems by the steps of:

- receiving of data from at least one of the second nodes, the data being indicative of a first quality measure of a first path from the one of the second nodes to its access point,

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- comparing of a second quality measure of a second path from the node to its access point to the first quality measure,
  - selecting of the first path to a replace the second path if the first quality measure is superior to the second quality measure.

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9. The mobile node of claim 8, whereby the first and second quality measures depend on the number of hops in the first path and in the second path to the respective access points.

- 15 10. A wireless cellular telecommunication system having a plurality of access points, a first node and a plurality of second nodes being adapted to serve as relay nodes, the first node comprising means for performing the steps of:

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- receiving of data from at least one of the second nodes, the data being indicative of a first quality measure of a first path from the one of the second nodes to its access point,
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- comparing of a second quality measure of a second path from the first node to its access point with the first quality measure,
  - selecting of the first path to replace the second path if the first quality measure is superior to the second quality measure.

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